

CLAIMS:

- 1) Coded data for disposal on or in an interface surface associated with a product item, wherein the coded data includes a plurality of coded data portions disposed on or in the interface surface, and wherein each coded data portion is indicative of an identity of the product item such that sensing any one of the coded data portions allows the identity of the product item to be determined.
- 5 2) The coded data of claim 1, wherein, the coded data is provided on the interface surface such that, in use, a sensing device:
  - 10 (a) senses at least one coded data portion; and,
  - (b) generates, using the sensed coded data, indicating data indicative of the product item identity.
- 3) The coded data of claim 1, wherein the coded data is adapted to distinguish the product item from each other product item.
- 15 4) The coded data of claim 1, wherein the coded data is indicative of at least one of:
  - (a) a first identifier indicative of a class of products; and
  - (b) a second identifier indicative of the respective product item.
- 5) The coded data of claim 4, wherein the first identifier is indicative of at least one of:
  - (a) a manufacturer number indicative of at least one manufacturer; and,
  - 20 (b) a product class number indicative of a type of the product item.
- 6) The coded data of claim 5, wherein the first identifier is a UPC.
- 7) The coded data of claim 4, wherein the second identifier is a serial number indicative of the respective product item.
- 8) The coded data of claim 1, wherein the coded data is arranged in accordance with at least one layout.
- 25 9) The coded data of claim 8, wherein each layout includes a number of sub-layouts, each sub-layout including at least one codeword that is at least one of:
  - (a) identical to at least one codeword of at least one other sub-layout; and,
  - (b) different to at least one codeword of at least one other sub-layout.
- 30 10) The coded data of claim 8, wherein each sub-layout has at least one codeword formed from a number of data elements, each sub-layout defining the positions of the data elements within the layout.
- 11) The coded data of claim 10, the sub-layouts being arranged such that each data element has a unique position.
- 35 12) The coded data of claim 10, the positions of the data elements of respective sub-layouts being interleaved.

- 13) The coded data of claim 8, wherein the coded data is arranged in accordance with a plurality of layouts arranged in accordance with a super-layout.
- 14) The coded data of claim 13, wherein the layouts are arranged to tessellate over the interface surface.
- 5 15) The coded data of claim 13, wherein each layout has at least one of the following shapes:
  - (a) linear;
  - (b) square;
  - (c) rectangular;
  - (d) triangular; or
  - 10 (e) hexagonal.
- 16) The coded data of claim 8, wherein the at least one layout includes at least one target feature.
- 17) The coded data of claim 16, wherein the at least one target feature is used to determine at least one of:
  - (a) a position of the at least one layout;
  - 15 (b) a perspective of the at least one layout with respect to a sensing device; and,
  - (c) a rotation of the at least one layout.
- 18) The coded data of claim 16, wherein each layout includes at least four target features.
- 19) The coded data of claim 16, wherein the coded data includes a plurality of layouts, at least some target features being common to at least two layouts.
- 20 20) The coded data of claim 1, wherein the interface surface includes a number of regions, and wherein each region includes at least one coded data portion indicative of an identity of the region.
- 21) The coded data of claim 20, wherein each coded data portion is provided at a respective position on the interface surface, and wherein each coded data portion is indicative of the respective 25 position.
- 22) The coded data of claim 1, wherein the coded data is indicative of an EPC associated with the product item.
- 23) The coded data of claim 22, wherein the EPC includes:
  - (a) a manufacturer number indicative of at least one manufacturer;
  - 30 (b) a product class number indicative of type of the product item; and
  - (c) a serial number indicative of the respective product item.
- 24) The coded data of claim 1, wherein the coded data is redundantly encoded.
- 25) The coded data of claim 24, wherein the coded data is redundantly encoded using Reed-Solomon encoding.
- 35 26) The coded data of claim 1, wherein the coded data is substantially invisible to the unaided eye.
- 27) The coded data of claim 1, wherein the coded data is printed using infrared ink.

- 28) The coded data of claim 1, wherein the coded data is provided on the interface surface coincident with visible markings representing at least one of:
- product information; and,
  - the identity of the product item.
- 5 29) The coded data of claim 1, wherein the interface surface is at least a portion of at least one of:
- product item packaging;
  - product item labelling;
  - product manuals;
  - product instructions; and,
  - 10 a surface of the product item.
- 30) The coded data of claim 1, wherein the coded data is disposed over at least one of:
- substantially all of any one of:
    - an entire product surface;
    - packaging; and,
    - 15 a product label;
  - more than 25% of any one of:
    - an entire product surface;
    - packaging; and,
    - a product label;
  - 20 more than 50% of any one of:
    - an entire product surface;
    - packaging; and,
    - a product label;
  - more than 75% of any one of:
    - an entire product surface;
    - packaging; and,
    - 25 a product label.
- 31) The coded data of claim 1, wherein, in use, the coded data is sensed by a sensing device, and wherein the sensing device is responsive to the sensed coded data to determine product identity
- 30 data indicative of the product item identity.
- 32) The coded data of claim 1, wherein the coded data is provided at respective positions on the interface surface, and wherein the sensing device is responsive to sensing the coded data to determine position data indicative of at least one of:
- a position of the sensing device with respect to the interface surface;
  - 35 a position of the sensed coded data;
  - an orientation of the sensed coded data; and,

- (d) an orientation of the sensing device relative to the interface surface.
- 33) An interface surface for use with a product item, the interface surface including coded data including a plurality of coded data portions disposed on or in the interface surface, and wherein each coded data portion is indicative of an identity of the product item such that sensing any one of the coded data portions allows the identity of the product item to be determined.
- 5 34) The interface surface of claim 33, the coded data being coded data according to claim 1.